

Book Review

[Theories of Information, Communication and Knowledge: A Multidisciplinary Approach](#). Ibekwe-SanJuan, Fidelia, Dousa, Thomas M (Eds.). London, UK: Springer, 2014. 380 pp. \$179.00 (hardcover), \$139.00 (e-book). ISBN 978-94-007-6973-1.

This book includes a provocative collection of instructive, informative and inclusive topics of theories of information through an introduction and 11 chapters. The book attempts to cover a vast range of theories of information, communication and knowledge. It is the result of a great project which is funded by the French Institute of Information and Communication Sciences on the epistemology of information and communication.

Introduction is written by editors accompanied with detailed analytical overview. Useful features of structure of the book induced which is divided into 3 different clusters (p.2) namely transdisciplinary or metadisciplinary approaches, theories of information and information science and ultimately information operationalized.

In chapter 2, *Søren Brier* tries to set a general theory of information through theory of cybersemiotics from a semiotic, linguistic, and language philosophy viewpoints. The proposed theory is depicted by referring to thermodynamic-cybernetic type of theory of information, the quantum mechanical physicalist information theory, Machlup's theory of information as well as techno-science paradigms (pan-computational and pan-informational). In addition, information as part of general system theory and also as part of the system theoretical autopoietic view of communication is explained deeply relying on Luhmann's revolutionary idea. Finally, cybersemiotic as a new way of combining the natural, technical, life and social sciences with humanities is expressed carefully within a transdisciplinary paradigm of information, cognition and communication. Moreover, cybersemiotics is investigated detailed by Peirce's transdisciplinary semiotically-based information theory. Brier argues that all mentioned aspects must be integrated into a transdisciplinary framework and it is beyond Peirce's idea that consists on both objective and the prior knowledge of interpreter.

Wolfgang Hofkirchner surveyed epistemology and social information through unified theory of information (UFI) framework in chapter 3. His idea is surrounded by social information that means any informative facts including human being. He focuses on the methodology of social information studies in a POE (Praxio-Onto-Epistemology) context. He argues that methodology should provide the grounds for transdisciplinary approaches toward social information with

confirmation on integrativistic thinking to integrate “soft” science and “hard” science. The epistemology of the proposed UTI framework undertakes the criticism of deductivism, as well as the non-deductivism to cope with qualitative leaps. Moreover, it is discussed that the philosophical architecture of praxeology, ontology, and epistemology is able to reconstruct semiotics as an architecture of pragmatics, semantics, and syntactics.

In chapter 4, perception and testimony are elaborated by Luciano Floridi. He tries to develop a Philosophical account of semantic information via metadisciplinary framework. In addition, Floridi considers answering two prominent questions. The first, if knowledge is accounted information, how are we supposed to understand perceptual knowledge and knowledge by testimony? The second, if perception and testimony are data providers, how are we supposed to understand the semantic value of such data? Moreover, the first and the second potential difficulties are discussed that affects (quantitative and qualitative) analyzing knowledge as accounted information. The constructionist interpretation of perception and testimony are depicted and modeled upon Shannon’s information-theoretical model of communication as a framework .Ultimately, Floridi believes that man’s ontology and cognitive system is totally semantic, so when a man is informed about the world would be able to know and account for such information as well. Critically, the chapter needs more explanation about epistemic agent.

In a latter chapter (chapter 5), contribution of Winfried Nöth is to focus on human communication from the semiotic perspective. In his idea, semiotics has been divided into semiotics of communication and signification. Theories of human communication are developed by referring to communication models of founding fathers of modern semiotics namely Ferdinand de Saussure (1857–1913) and Charles S. Peirce (1839–1914) (N oth2011). In the following, the importance roles of congruence, commonage and the inscrutability of the communicator’s mind are explained. In addition, functional models of semiotics of communications such as Eric Buysens (1900–2000), Luis Prieto (1926–1996) as well as Roman Jakobson (1896–1982) are overviewed by details. Successively, models of communication rooted in cybernetics and information theory like Umberto Eco’s theory and also Yuri M. Lotman (1922–1993) are discussed by focusing on potential of various codes (extra coding, overcoding and undercoding) and effect of cultural semiotic models as well as social background of interpreter of a signs. Finally, the idea of Algirdas Greimas (1917–1992) as semiotic action with its modalities and enunciation is expressed to make prominent the intention of interpreters in conveying the knowledge to others. As conclusion, Nöth focuses on incompatibility and divergence of the mentioned models and a common proclivity of Shannon and Weaver’s mechanistic view of communication.

In chapter 6, gaps between various concepts of information in 5 varied domains are developed in further details. Robinson and Bawden are inspired to answer to the question of John Wheeler “what makes meaning?” through the interpretations. The concept of “information” in different

domains of technological, physical, biological, social and philosophical is pointed out and compared. It causes to recognize a prominent guide to justify differences and gaps between them. The advantage of the writing style of the chapter is to offer more concrete resources for each field as well as the history of their evolution. Furthermore, the discontinuity between the objective/quantitative/physical and subjective/qualitative/semantic families of information concepts is utilized to identify and bridge the gaps. Authors reassure readers to consider more to physical and biological accounts of information as a vital concept on the contrary of Brier's idea.

Jonathan Furner carefully describes the concept of “information without information studies” in chapter 7. He aims to clarify some vague dimensions about the nature of the relationships among various concepts of information as the same. He also tries to develop a framework in order to define the range of ontological possibilities for things that have been called “information” which offered by philosopher Jonathan Lowe's (2006) ontology. The four-category ontology includes two-fold distinctions between substance and property and type and instance on the other as a framework. Moreover, distinguishing between information and informativeness can be possible respectively through determining as qua substance or object and also qua property or mode on the other. In addition, Probability-theoretical concepts of information and informativeness is formulated and elaborated as surprisal, entropy, conditional entropy as well as mutual information. As a deep probing, concept of information from the perspective of Anatoly Rapoport (1955), Tom Stonier (1986) and also Agnès Lagache (1997) as well as special issues of two journals of “information” and “TripleC” are surveyed. The upshot, Furner recommend the usage of ontology as a potentially productive means of identifying hitherto-unexplored possibilities. Therefore, he emphasize that information without information studies—is needlessly impoverished, not least on account of the range of ontological possibilities that it misses.

Chapter 8 entitled “Epistemological Challenges for Information Science: Constructing Information” written by Ian Cornelius focus on proposing a normative theory of information. Actually, a theory of knowledge that supports a theory of action is offered and explained. On the other hand, a theory of action presupposes a theory of knowledge. Defining what information is (WII) is not in his boundaries of discussion. On his view most crucially, information is constructed within the context of a given social practice. He suggests constructivist account of information accompanied with social practice empowers LIS as an academic major with scientific approach. By and large, Cornelius believes the world is itself a constructed concept, therefore, a normative theory of action and proposed constructive theory of knowledge sustain the scientific approaches to the epistemology of LIS as well as make a more coherent connection between information and LIS thought and actions.

Birger Hjørland analyzes various levels of disagreements in the field of information science and its core concepts as an academic field within chapter 9. He elaborates different conceptualizations and their interrelatedness of the field as historically borne through a well-trodden discussion.

More than 10 various designations of LIS discipline are reviewed holistically. In the following, the impact of ICT on the major and related concepts are discussed. Additionally, Hjørland confirms that the level of disciplinary “paradigms” or “metatheories” are as the most radical to set up epistemological assumptions about choosing an approach to resolve mentioned issues. Moreover, he accentuates that the main problem is lack of sufficiently strong centripetal forces keeping the field together integratively, so that a greater amount of theoretical coherence is offered to survive the field and happened centrifugal. Critically, explanation by details about mentioned paradigms and their impacts was more valuable.

In the 10th chapter, Leleu-Merviel outlined visual information construing. The chapter aims to propose a model of the emergence of meaning and also sense-making as an active process. The informational process is pointed out by referring to Floridi’s Diaphoric Definition of Data (DDD) and Bates’s definition by pattern through 4 postulates. In the idea of Merviel, “fictional binding” is interpreted as relations, links, or connections within a higher level of coherence that conjoin elements of data with one another in order to further human’s understanding of information. A famous image of “duck-rabbit” is depicted to talk about bistability as a revealer of mediating patterns. In addition, its function is restricted by an individual’s “horizon of relevance”. In short, it indicates personal viewpoint and construction, knowledge and also socio-cultural experience as a frame of information construing. On the other, image is supposed as signs by regarding to coalescence and semiotic features to induce meaning through interpreting and cognitive process for socially shared meanings, purely conventional, culturally assigned and innovative understanding to make it more communicable. Critically, more evidence and description about the approach during the chapter would be more fruitful and preferable.

Users’ informational constructs within a case study is investigated in chapter 11 by Michel Labour. The chapter aims to infer how users’ informational constructs of influence a situational knowledge building process through the axiomatico-inductive approach. The role of salient data in a communicational situation and also constraining affordances on a social actor’s ability to make sense of informational constructs is explicated. Besides, information as a social science phenomenon and epistemological construct via GDI framework and semantic information of Floridi, George Kelly, Marcia Bates, Dervin as well as Bateson are elucidated explanatory. In light of this, during the case study, an interview template is developed for persons watching the snippet on which to document their information constructs via the triadic grid to comprehend how people make sense of visual documents. In conclusion, further research on the role of informational constructs is suggested to develop the theoretical framework.

In the last chapter, textual information, documentary languages, and information analysis are explained as radical discussions by Thomas M. Dousa. Therefore, Kaiser’s theory and method of systematic indexing is utilized to talk more deeply for the analysis of textual documents. Considerably, Kaiser’s view on textual information with both epistemological and an ontological

dimensions are argued. Thoroughgoing, *the idea of textual information as thing*, as well as its bearing on his understanding of textual information are elaborated. Demarcation of information units both objectivity and interpretation in Kaiser's perspective is investigated too. So that, three categories of terms for concretes, countries, and processes to constitute the basic building blocks of textual information and the role of interpretation are simplified. The most positive point of the chapter is instructive and enlightening footnotes.

At the end, we would like to thank the author for writing such an instructive and revealing book. The mentioned 11 studies are as brief but informative part of the expansive domain of the concept of information and its relation to theories of knowledge and communication. The most positive point of the book is multidisciplinary discovery of deep perception of information & knowledge from a various points of disciplines via pluralism approach integratively. So diverse backgrounds and definitions of knowledge theories from various authors and its effecting on epistemology of knowledge society provide a rich and valuable content with multidisciplinary approach through co-extensive chapters. In addition, prominent and rich used resources are as holistic underpinning in the field of concept of information. As a result, the book is highly recommended to experts of the realm of information science, communication, library science, information technology, management of ICT in order to study and utilize in academic teaching particularly for master and Ph.D. students as an amenable and compelling source. It is worth mentioning that the written language on some chapters are not easy to understand on the first reading, but due to full-fledged content it is eminently suggested by reviewers to use as a classmate text by academics and lecturers.

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